WHAT IS CLAIMED IS:

1. An integrated circuit fabrication process, the process comprising:

exposing a photoresist material provided including arylalkoxysilane over a substrate to a first radiation at a first lithographic wavelength;

selectively transforming a top portion of the material in accordance with a pattern provided on a mask or reticle; and

exposing the photoresist material to a second radiation at a second lithographic wavelength,

wherein the first lithographic wavelength is shorter than the second lithographic wavelength and the transformed top portion of the photoresist material being non-transparent to the second radiation.

2. The process of claim 1, wherein the first lithographic wavelength is selected from a wavelength including 157 nm, 126 nm, and 13.4 nm.

3. The process of claim 1, wherein the second lithographic wavelength is selected from a wavelength including 365 nm, 248 nm, and 193 nm.

4. The process of claim 1, wherein the exposing step with the first radiation is performed before the exposing step with the second radiation.

5. The process of claim 1, further comprising providing the transformed top portion of the photoresist material as a self-aligned mask for the exposing step with the second radiation.

6. The process of claim 1, wherein the photoresist material is a positive photoresist material.

7. The process of claim 1, wherein the transformed top portion of the photoresist material comprises polymerized organoarylalkoxysilane material.

8. The process of claim 7, wherein the thickness of the transformed top portion is at least 10 nm.

9. The process of claim 1, further comprising transferring the pattern of the mask or reticle onto the photoresist material, wherein a resolution of the transferred pattern is determined by the first lithographic wavelength.

10. An integrated circuit fabrication system, comprising:

a first light source providing a first radiation at a first lithographic wavelength;

a second light source providing a second radiation at a second lithographic wavelength; and

a self-aligned mask included in a photoresist layer, the self-aligned mask formed by exposure to the first radiation at the first lithographic wavelength in accordance with a patterned mask or reticle.

11. The system of claim 10, wherein the first lithographic wavelength is smaller than the second lithographic wavelength.

12. The system of claim 11, wherein the first lithographic wavelength is selected from a wavelength including 157 nm, 126 nm, and 13.4 nm.

13. The system of claim 11, wherein the second lithographic wavelength is selected from a wavelength including 365 nm, 248 nm, and 193 nm.

14. The system of claim 10, wherein the photoresist layer is comprised of positive photoresist material.

15. The system of claim 10, wherein the self-aligned mask comprises at least one cross-linked and or polymerized area of a top arylalkoxysilane layer.

16. The system of claim 15, wherein the self-aligned mask is located at the top portion of the photoresist layer and has a thickness between 10 nm and 10000 nm.

17. The system of claim 16, wherein each of the polymerized area prevents the second radiation from transforming the portion of the photoresist layer correspondingly underneath.

18. A method of extending the use of 248 nm and 193 nm photoresists to lithographic regimes less than approximately 157 nm in an integrated circuit, the method comprising:

providing a first radiation at a short lithographic wavelength; and

transforming a top portion of a photoresist layer provided over a substrate in accordance with a pattern on a mask or reticle, wherein the transformed top portion on top of the photoresist layer includes at least one polymerized area where the first radiation is incident thereon and comprises the pattern from the mask or reticle.

19. The method of claim 18, further comprising providing a second radiation at a long lithographic wavelength after providing a first radiation, wherein the short lithographic wavelength is smaller than the long lithographic wavelength.

20. The method of claim 19, wherein the mask or reticle is omitted at a second radiation step.

21. The method of claim 19, wherein the second radiation is not transmitted through the polymerized area.

22. The method of claim 21, further comprising patterning the photoresist layer in accordance with each of a plurality of polymerized areas on top of the photoresist layer and the second radiation, wherein the resolution of the patterned

photoresist layer is determined by the short lithographic wavelength of the first radiation.